Claims

1. A resin intake manifold, wherein a resonator is provided as a structure body in a dead space between a surge tank and an engine mounting flange.

2. A resin intake manifold comprising:

an integrally formed base member having a U-shaped curved distribution passage lower surface wall portion, an engine mounting flange portion formed in one end of said distribution passage lower surface wall portion, and a surge tank peripheral wall portion formed in another end and a lower surface side of said distribution passage lower surface wall portion, wherein a resonator peripheral wall portion is integrally formed in a dead space in a lower surface side of said distribution passage lower surface wall portion and between said surge tank peripheral wall portion and said engine mounting flange portion.

3. A resin intake manifold as claimed in claim 2, wherein a part of said resonator peripheral wall portion and a part of said surge tank peripheral wall portion form a common wall portion.

4. A resin intake manifold as claimed in claim 2 or 3, wherein the resin intake manifold is provided with a tank lower surface wall and resonator peripheral wall member welded to a lower surface side of said base member, and a lower cover member welded to an opening portion in a lower surface side of said tank lower surface and resonator peripheral wall member, said tank lower surface wall and resonator peripheral wall member and said lower

cover member have respective separation passages, and a communication passage communicating between the resonator and the surge tank is formed by a combination of both the separation passages.

5. A resin intake manifold as claimed in claim 4, wherein a long hole in a vertical direction is provided in an opening end of said communication passage in a side of the surge tank, and said communication passage is communicated with an upper portion of said long hole.

6. A resin intake manifold provided with a surge tank arranged between a throttle body and an engine and reserving an air, and a plurality of branch pipes each having a discharge port connected to each of cylinders of an engine in one end and forming an air passage, and evenly distributing the air to each of the cylinders of said engine, wherein air passage center positions of a plurality of branch pipes are arranged in a curved shape so as to make the air passage center position of the inner branch pipe high, in a cut surface passing through said surge tank, and a wall portion of said surge tank in an opposite surface to said branch pipe with respect to said surge tank is formed in a curved shape expanded in a center portion.

7. A resin intake manifold as claimed in claim 6, wherein the surge tank is formed by three pieces separated by a separation part separating along a parallel arranging direction of said branch pipes in said surge tank and a separation part separating said branch pipes along the parallel arranging direction of said

branch pipes, in a cut surface cutting a plurality of branch pipes and the surge tank in said resin intake manifold, and is bonded in the respective separation parts in accordance with a vibration welding.

8. A resin intake manifold provided with a surge tank portion, an even number of intake pipes branched from said surge tank portion so as to be connected to respective cylinders, and mounting flange portions formed in leading end portions of said intake pipes and connected to a cylinder head, wherein a connection between said mounting flange portions and said cylinder head is achieved by a screw connection, said mounting flange portions are provided with bolt holes, and a pair of ribs having a gap between a pair of ribs so as to prevent said screw member from falling off are formed between opposing walls of said intake pipes.

9. A resin intake manifold as claimed in claim 8, wherein the bolt holes provided in said mounting flange portions are arranged on a diagonal line with respect to the respective cylinder holes of the cylinder head, and a pair of ribs are formed between the opposing walls of the intake pipe in which the screw fastening is at a far side position.

10. A resin intake manifold as claimed in claim 8, wherein said gap between a pair of ribs is formed from the mounting flange portion toward said intake pipe and at least a terminal end wall of said gap between a pair of ribs is formed so as to be inclined in a die cutting direction of a female mold or so as to be over

a back surface wall of said ribs.

11. A resin intake manifold as claimed in claims 8, 9 or 10, wherein a top surface of said rib for preventing the nut from falling off is formed in a shape corresponding to a water stream guide surface for guiding a water stream to said gap between a pair of ribs.

12. A resin intake manifold as claimed in claim 8, wherein said synthetic resin is constituted by a polyamide in which an amide group density reinforced by an inorganic fiber is equal to or more than an approximately polyamide 6.

13. A method of manufacturing a resin intake manifold as claimed in claim 10, wherein the resin intake manifold is formed by using an injection molding metal mold having a female mold provided with a protrusion and/or a plate-shaped projection capable of diluting said gap between a pair of ribs.